

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.

1. REPORT DATE (DD-MM-YYYY)

2. REPORT TYPE

Technical Papers

3. DATES COVERED (From - To)

4. TITLE AND SUBTITLE

5a. CONTRACT NUMBER

5b. GRANT NUMBER

5c. PROGRAM ELEMENT NUMBER

6. AUTHOR(S)

5d. PROJECT NUMBER

2303

5e. TASK NUMBER

m1A3

5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

Air Force Research Laboratory (AFMC)
AFRL/PRS
5 Pollux Drive
Edwards AFB CA 93524-7048

8. PERFORMING ORGANIZATION
REPORT

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)

Air Force Research Laboratory (AFMC)
AFRL/PRS
5 Pollux Drive
Edwards AFB CA 93524-7048

10. SPONSOR/MONITOR'S
ACRONYM(S)

11. SPONSOR/MONITOR'S
NUMBER(S)

12. DISTRIBUTION / AVAILABILITY STATEMENT

Approved for public release; distribution unlimited.

13. SUPPLEMENTARY NOTES

14. ABSTRACT

20030110 143

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:

17. LIMITATION
OF ABSTRACT

18. NUMBER
OF PAGES

19a. NAME OF RESPONSIBLE
PERSON

Leilani Richardson

a. REPORT

b. ABSTRACT

c. THIS PAGE

Unclassified

Unclassified

Unclassified

A

19b. TELEPHONE NUMBER

(include area code)
(661) 275-5015

Standard Form 298 (Rev. 8-98)
Prescribed by ANSI Std. Z39.18

13 separate items enclosed

23031193

MEMORANDUM FOR PRS (In-House Publication)

FROM: PROI (TI) (STINFO)

22 Dec 2000

SUBJECT: Authorization for Release of Technical Information, Control Number: **AFRL-PR-ED-AB-2000-237**
Blanski, Rusty L; Phillips, Shawn; Lee, Andre, "Preparation and Properties of Polyhedral
Oligosilsesquioxanes/Polymer Blends" (Abstract)

American Chemical Society Meeting
(San Diego, CA, 01 Apr 2001) (Deadline: 31 Jan 2001)

(Statement A)

1. This request has been reviewed by the Foreign Disclosure Office for: a.) appropriateness of distribution statement, b.) military/national critical technology, c.) export controls or distribution restrictions, d.) appropriateness for release to a foreign nation, and e.) technical sensitivity and/or economic sensitivity.

Comments: _____

Signature _____ Date _____

2. This request has been reviewed by the Public Affairs Office for: a.) appropriateness for public release and/or b) possible higher headquarters review.

Comments: _____

Signature _____ Date _____

3. This request has been reviewed by the STINFO for: a.) changes if approved as amended, b) appropriateness of references, if applicable; and c.) format and completion of meeting clearance form if required

Comments: _____

Signature _____ Date _____

4. This request has been reviewed by PR for: a.) technical accuracy, b.) appropriateness for audience, c.) appropriateness of distribution statement, d.) technical sensitivity and economic sensitivity, e.) military/national critical technology, and f.) data rights and patentability

Comments: _____

APPROVED/APPROVED AS AMENDED/DISAPPROVED

PHILIP A. KESSEL Date
Technical Advisor
Propulsion Science and Advanced Concepts Division

The synthesis of silsesquioxane/polymer blends and copolymers has expanded greatly in recent years. These materials have the advantage of combining a well defined ceramic type molecule with an organic polymer which can result in a material that may bridge the performance gap between the two systems. Earlier, we reported that the organic side groups of polyhedral oligosilsesquioxanes (POSS) have an enormous influence on the solubility of POSS in polystyrene with the phenethyl POSS being the most soluble. We now report that phenethyl POSS is dispersible in a wide range of aromatic ring-containing polymers (polycarbonate, SB rubber, etc.) resulting in a clear blend. We also report that aliphatic POSS compounds are also dispersible in high density polyethylene. The synthesis of POSS/polymer blends as well as some physical properties will be discussed.

DISTRIBUTION STATEMENT A

Approved for Public Release

Distribution Unlimited